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AMSAT NEWS SERVICE
ANS-295

ANS is a free, weekly, news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

Please send any amateur satellite news or reports to:
ans-editor at amsat.org

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ANS-295 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 295.01
>From AMSAT HQ SILVER SPRING, MD.
October 21, 2012
To All RADIO AMATEURS
BID: $ANS-295.01

Special Symposium Visitor Hector Martinez, CO6CBF

Hector Martinez, CO6CBF will travel from Cuba to the AMSAT Symposium in Orlando next week. AMSAT extended an invitation for Hector to attend and to make a presentation. Thanks to the work done by Patrick Stoddard, WD9EWK/VA7EWK, Hector has been able to obtain a visa to come to the United States for the Symposium.

Once the invitation was extended, Hector had to approach both governments and file applications to get a Cuban passport and travel permit and a US visa. All expenses for his trip must be guaranteed by someone outside Cuba. Patrick took on that task personally on behalf of AMSAT, even signing legally-binding documents for the Cuban government to that end. Patrick has covered expenses out of his personal funds since no AMSAT funds are available. Patrick would appreciate donations to cover the expenses via his callbook address.

AMSAT looks forward to welcoming Hector, CO6CBF at the Symposium!

[ANS thanks Patrick Stoddard, WD9EWK/VA7EWK and the 2012 Symposium
Committee for the above information]

2012 AMSAT Space Symposium Begins This Week in Orlando

This bulletin is a reminder that the time of the 2012 AMSAT Space Symposium is quickly approaching. The Symposium will be held on Friday, October 26th through Sunday, October 28th in Orlando, Florida at the Holiday Inn at Orlando-International Airport.

The Symposium weekend will feature:

+ Space Symposium with Amateur Satellite Presentations
+ Operating Techniques, News, & Plans from the Amateur Satellite World
+ Board of Directors Meeting open to AMSAT members
+ Meet Board Members and Officers
+ Annual General Membership Meeting
+ Annual Banquet-Keynote Speaker and Door Prizes

Symposium Registration including Proceedings
- o Starting September 24, 2012: $ 50.00
- o At the Door: $ 55.00
- o Saturday Evening Banquet $ 45.00
- o Sunday Morning Area Coordinators' Breakfast $ 15.00
- o Sunday Trip to the Orlando Science Museum - the preregistration for the Star Wars Exhibit has closed; however, access to the rest of the exhibits remains available. Refer to the Museum link on the Symposium Schedule page for tour details.
- o Monday (Oct 29) bus trip to KSC and entrance ticket $ 100.00

See the AMSAT Web Store to complete your on-line registration:
http://store.amsat.org/catalog/index.php?cPath=27

Downloadable paper registration forms in MS-Word format and PDF format are available on the 2012 Symposium page:
http://www.amsat.org/amsat-new/symposium/2012/index.php

The hotel offers free Internet connection and free airport shuttle. When you arrive at the Orlando Airport call 407-709-5310 to request the shuttle.

The Orlando International Airport (MCO) is the closest to the Symposium and is served by most major air carriers. The hotel address is: 5750 T.G. Lee Blvd - Orlando, FL 32822. A map link is included on the hotel web page:
http://www.holidayinn.com/hotels/us/en/orlando/mcoap/hoteldetail

Dr. Samuel T. Durrance, NASA Astronaut at the Saturday Evening Banquet

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The featured speaker for the AMSAT 2012 Saturday Evening Banquet on October 27 will be Dr. Samuel T. Durrance, NASA Astronaut/Payload Specialist and Professor of Physics and Space Sciences at the Florida Institute of Technology. For all the details see:
http://www.amsat.org/amsat-new/symposium/2012/BanquetSpeaker.php

2012 AMSAT Symposium Schedule

To help you plan your trip to Orlando the 2012 Symposium Committee has posted a high-level schedule of the weekend's events.

Thursday 25 October 2012
AMSAT Board of Directors Meeting 8am - 9pm

Friday 26 October 2012
AMSAT Board of Directors Meeting 8am - Noon
Trips to SkyCraft 9am - Noon
AMSAT Symposium 1pm - 5pm

Saturday 27 October 2012
Symposium 8am - 3pm
AMSAT Annual General Meeting 3:30pm
AMSAT Banquet 6:30pm - 10pm

Sunday 28 October 2012
AMSAT Area Coordinator's Breakfast 7:30am
Trip to the Orlando Science Center 9:00am

Monday 29 October 2012
Special trip to Kennedy Space Center 8am-6pm

The AMSAT Symposium Web Schedule Pages include links for details of the activities:
http://www.amsat.org/amsat-new/symposium/2012/SymposiumSchedule.php

[ANS thanks the 2012 Symposium Committee for the above information]

Symposium Speaker and Presentation List is Taking Shape

The Symposium Team is working on finalizing the presentations which are slated to begin at 1:00PM on Friday afternoon, October 26 and run through Saturday, October 27 at 3:00PM.

You will hear from AMSAT's experts on topics including:

+ AMSAT Project Fox
  o Program Overview
  o Mechanical and Thermal Design
  o FoxTLM software
  o Linux software build environment for Fox
  o Fox radiation mitigation
  o The Fox Sniffer

+ Overview of the ARISSat-1 Mission

+ AMSAT and Education
  o CubeSat Program Space@VT
  o Recent Progress of UCF's CubeSat Program
  o High School Students Building Satellites
  o AMSAT at PACIFICON 2012

+ Special Presentation by Hector Martinez CO6CBF Working Satellites with a homebrew setup, Cuban Style

+ Future Missions
  o Demonstration of MAREA--the Mars-lander ARISS Robotics Exploration Activity

  o FUNcube from AMSAT-UK
  o FUNcube Dongle
  o NASA's Open Source General Mission Analysis Tool

+ Advanced Technology
  o Future of CubeSat Communications: Transitioning Away from
    Amateur Radio Frequencies for High-Speed
  o Applying the Codec2 Low-Bitrate Voice Codec to Amateur
    Satellite Operations

[ANS thanks the 2012 Symposium Committee for the above information]

Successful ARISS Contacts With Youth

Luxembourg

Students from St. George's International School in Luxembourg participated in a Q&A session with Sunita Williams, KD5PLB on Monday, October 8 via an Amateur Radio on the International Space Station (ARISS) contact.

The radio connection was handled by telebridge station W6SRJ in California. Approximately 700 students, teachers and guests were in attendance - 200 in the gym watched live and another 500 in classrooms watched a "live stream" of the contact.

The audience included several VIPs: the UK Ambassador Alice Walpole, the Head Teacher Heather Duxbury and the Deputy Head Teachers (Kath Griffiths and Mark Stenton) of both primary and secondary sections. Guest speakers gave talks on satellites as well as the NASA "Moon Buggie" project. The contact was one of the educational activities the students from both sections took part in to learn about electricity, astronomy and physics.

Italy

On Tuesday, October 9, Liceo Statale Adelaide Cairoli in Pavia, Italy took part in its Amateur Radio on the International Space Station (ARISS) contact via station W6SRJ in California. On-orbit astronaut Sunita Williams, KD5PLB, was able to answer 18 questions during the contact as nearly 1100 students gathered for the event.

The school uses amateur radio as a teaching tool and its radio club provides students the opportunity to speak with other amateurs all over the world using different languages. This ARISS contact was used to focus on technology, science and foreign languages. The video may be viewed here: http://livestre.am/4aJ08

Successful PACIFICON ISS contact

An Amateur Radio on the International Space Station (ARISS) contact was held with youth attending the American Radio Relay League (ARRL) Pacific Division annual convention, PACIFICON in Santa Clara, California on Saturday, October 13.

Telebridge station IK1SLD in Italy provided the radio connection.

Astronaut Akihiko Hoshide, KE5DNI, on the ISS participated in the contact which was the featured event of the PACIFICON Youth Program that emphasized hands-on radio operation, electronics kit building,

orbital mathematics and CubeSat satellite design, among other STEM activities.

Fellow astronaut Dr. Lee Morin gave a presentation at the event and exchanged greetings with Hoshide at the end of the ISS pass.

An audience of approximately 150 was present for the contact; 2500 attended the convention.

[ANS thanks Carol Jackson, KB3LKI for the above information]

AO-27 Recovery Work Still in Progress

AO-27 Command Station Michael Wyrick, N3UC reported on the team's to recover the satellite and return its FM repeater back to service after it stopped responding on October 5.

The next day AO-27 was restored back to running on its primary Boot-loader. Control operators were able to turn on the Transmitter for a short time. The command team downloaded the memory dump between October 8-12 to try to determine the cause of the failure. This was slowed due to interference. Please, if you can't hear the bird in Analog mode, please don't transmit to it.

On October 14 the command team recovered from the AFSK modem problem which was one of the initial symptoms of the problems. They were able to upload the entire kernel. As of October 15 they finished uploading the high level code to AO-27. The TOPR schedule will be on digital for the entire pass until the command team collects enough telemetry and finishes the on-orbit checkout.

AO-27 crashed once again on October 16. The command team once again recovered to the bootloader state, recovered from another occurrence of the AFSK modem problem and once again is attempting another soft-ware upload.

ATTENTION OPERATORS: To prevent interfering with the command team's recovery efforts, if you can't hear AO-27 in Analog mode, please don't transmit to it.

The latest AO-27 news is posted on its webpage:
http://www.ao27.org/AO27/index.shtml

Mode V/U (J) FM Voice Repeater Frequencies

Uplink 145.8500 MHz   FM
Downlink   436.7950 MHz   FM

[ANS thanks AO-27 Command Station Michael Wyrick, N3UC for the above information]

JA0CAW Receives 5840.0 MHz Downlink From FITSAT-1

Tetsurou Satou, JA0CAW, successfully received the 5840.0 MHz down-link from FITSAT-1 while it orbited over Japan. FITSAT-1, was one of five CubeSats deployed from the International Space Station on

October 4.

He used a 38cm dish with a down-converter to an IF of 1284 MHz, a BGA2717 LNA and the AMSAT-UK FUNCube Dongle SDR with HDSDR software.

Visit the AMSAT-UK web to view the JA0CAW posted:
http://www.uk.amsat.org/?p=11100

[ANS thanks Tetsurou Satou, JA0CAW for the above information]

CAMSAT Announces New Details of CAS-2 Amateur Satellite Mission

First announced at the Friedrichshafen Ham Radio 2012 event, the Chinese Amateur Satellite Group (CAMSAT) has made additional information available on the new CAS-2 satellite under development. The latest news has been posted by AMSAT-UK:
http://www.uk.amsat.org/?p=11108

CAMSAT is building two micro-satellites CAS-2A1 and CAS-2A2 to be combined into a binary star system for amateur radio communication and education.

There will be a radio link between two satellites when the satellites are in suitable positions in their orbits, so that the amateur radio communication coverage can be extended. Both spacecraft are 25kg 270x270x250mm and are planning to launch from Taiyuan into a sun synchronous, 1000km apogee, 99.5 degree orbit.

Missions of CAS-2A1 satellite:
+ 145 MHz CW telemetry beacon 100mW
+ 145 MHz AX.25 digital telemetry beacon 500mW
+ 145 MHz FM voice beacon 500mW
+ 435/145 MHz mode Linear transponder 50 kHz 500mW
+ 1260/2400 MHz Linear transponder 200 kHz 320mW
+ 435/145 MHz APRS repeater

Missions of CAS-2A2 satellite:
+ 435 MHz CW telemetry beacon 100mW
+ 435 MHz AX.25 digital telemetry beacon 500mW
+ 2400 MHz CW telemetry beacon 200mW
+ 10450 MHz CW telemetry beacon 200mW
+ 145/435 MHz Linear transponder 500mW

[ANS thanks CAMSAT and AMSAT-UK for the above information]

AMSAT-LU Recovers Stratospheric Balloon

AMSAT-LU launched their LUSEX high altitude balloon from La Pampa, Argentina on May 19, 2012. The payload included a UHF to VHF (4w) subtone activated repeater, APRS lu7aa-11, Robot-36 live SSTV, CW, 40/20m CW tlm beacon and two video cameras. Over 200 stations made contacts through the repeater during the 4 hour flight that reached 34,000 meters, 111,548 feet.

Initially thought lost during descent the payload was recovered on October 6 from a muddy, flooded and isolated area by 4x4 Adven-

ture Group. Video and sound taken by two on board TV Cameras spanned 6 hours. They can be viewed at: http://tinyurl.com/AMSAT-LU

Details of the LUSEX Experiment, part of Amsat-LU development and field tests of AMSAT Argentina's planned LUSEX satellite are posted at: http://www.lusex.org.ar. See http://www.amsat.org.ar/rescate.jpg for additional photos.

Pending approval and flight authorization by Argentina Federal Aviation Authorities AMSAT-LU plans another balloon flight during the November-December timeframe.

AMSAT-UK posted a related story at: http://www.uk.amsat.org/?p=11094 with videos and photos from the flight.

[ANS thanks AMSAT Argentina for the above information]

NASA Announcement of (Suborbital) Flight Opportunities #6 Now Open

While AMSAT generally seeks orbital flight opportunities, this NASA announcement for access to flights on parabolic flights, suborbital Reusable Launch Vehicles (sRLV), and high-altitude balloons may be of interest to our allied university groups.

The National Aeronautics and Space Administration (NASA) Dryden Flight Research Center has released a solicitation entitled "NASA Announcement of Flight Opportunities (AFO) for Payloads Maturing Crosscutting Technologies that Advance Multiple Future Space Missions to Flight Readiness Status."

These NASA flight opportunities are for payloads that seek to gather information required for the design, development and refinement of new technologies. For instance, such information could concern how certain fluids phenomena behave, how thermal transport changes, or how human physiology is altered under microgravity.

The full document and program details are posted on NASA's NSPIRES (NASA Solicitation and Proposal Integrated Proposal and Review System): http://tinyurl.com/NASA-nspires and then select the "Announcement of Flight Opportunities (AFO) - #6" link.

Applications are due on or before 11:59 PM Eastern Time December 21, 2012, and selections will be announced in a target timeframe of February 2013.

[ANS thanks NASA for the above information]

NASA History Program Office Spring and Summer 2013 Internships

The NASA History Program Office is seeking undergraduate and graduate students for spring and summer 2013 internships. The History Program Office maintains archival materials to answer research questions from NASA personnel, journalists, scholars, students at all levels and others from around the world. The division also edits and publishes several books and monographs each year. It maintains a large number of websites on NASA history.

Students of all majors are welcome to apply. While detailed prior knowledge of the aeronautics and space fields is not necessary, a keen interest and some basic familiarity with these topics are needed. Strong research, writing and editing skills are essential. Experience with computers, especially hypertext markup language, or HTML, formatting, is a plus.

Intern projects are flexible. Typical projects include handling a variety of information requests, editing historical manuscripts, doing research and writing biographical sketches, updating and creating websites, and identifying and captioning photos.

Applications for spring 2013 internships are due Oct. 30, 2012. Summer 2013 internship applications are due Feb. 4, 2013.

For more information, visit http://history.nasa.gov/interncall.htm.

If you have questions about this opportunity, please contact Bill Barry at bill.barry@nasa.gov.

[ANS thanks NASA Education Express Message -- Oct. 18, 2012 for the above information]

Iran Capable of Launching Satellites Weighing Below 10kg

An article appearing on SpaceDaily.com says that, "MICROSAT BLITZ Iran capable of launching nano-satellites weighing below 10 kg: official", by Staff Writers Tehran (XNA) Oct 19, 2012

Source: http://tinyurl.com/SpaceDaily-Iran (SpaceDaily.com)

Iran Space Agency (ISA) Director Hamid Fazeli said the Islamic republic has the capability to launch nano-satellites weighing below 10 kg into space, Tehran Times daily reported Thursday.

Some of Asian countries and an Austrian university have announced readiness to set their satellites into orbit using Iranian space shuttles, Fazeli was quoted as saying.

He said Iran is among a handful of countries in the world that are capable of developing satellite-related technologies.

In February, Iran launched an observation satellite into orbit. The spacecraft, named Navid (Herald), weighed 50 kg and could take pictures in low attitudes of about 250 km to 375 km from the earth.

Iran, a founding member of the United Nations Committee on the Peaceful Uses of Outer Space, launched its first domestically-made data-processing satellite, the Omid (Hope), into space in 2009.

[ANS thanks SpaceDaily.com for the above information]

Satellite Shorts From All Over

+ ISS orbital reboost planned. The thrusters of the Russian Zvezda service module are planned to be fired for 19 seconds on Wednesday to raise the station's average orbit altitude by one kilometer to 436 km (270.9 miles). The reboost is in preparation for the docking of the Soyuz TMA-06M manned spacecraft with Russian cosmonauts Oleg Novitsky and Yevgeny Tarelkin, and NASA astronaut Kevin Ford planed to be launched on October 25.

+ On Wednesday, October 10 it was announced in Moscow that UK private spacefarer Sarah Brightman had passed the required mental and physical examinations to fly into space. In 2013 she will undertake six months of training at Star City in Moscow in preparation for her mission to the International Space Station. Read the entire post at: http://www.uk.amsat.org/?p=11034

+ Bob McGwier, N4HY says that the Hume Center for National Security and Technology, and the Bradley Department of Electrical and Computer Engineering at Virginia Tech, are seeking applicants for junior and mid-level research staff members to support a growing body of research programs in signals intelligence, military communications, and electronic warfare. Details are posted at: http://listings.jobs.vt.edu/applicants/Central?quickFind=196236

+ In HamRadioNow.tv, Episode 27, Gary Pierce, KN4AQ interviewed Bill Brown, WB8ELK, who sends balloons carrying ham radio to the edge of space, and David Stephenson KJ4OKJ who launches rockets with NASA. Watch the podcast: http://arvideonews.com/hrn/HRN_Episode_0027.html Additional programs can be found at: http://HamRadioNow.tv

+ Learn some Finnish as you watch a video from Kauto, OH2LFM with OH2AUE demonstrating a P3E transponder at SRAL summer camp: http://tinyurl.com/OH-transponder

+ Watch a video (http://www.uk.amsat.org/?p=11061) by students from the Univeristy of Manitoba showing what is involved in assembling a Nanosatellite. T-Sat1 will use the 145 and 437 MHz amateur radio bands.

+ Lots of good VHF information plus the Updated VE7BQH VHF Antenna Comparison Tables is found at: http://www.bigskyspaces.com/w7gj/

+ In celebration of Britain's contributions to space discovery and exploration, Royal Mail is issuing a set of six special stamps to mark the 50th anniversary of Britain's first launch into the final frontier. Read the details posted at: http://spaceref.com/news/viewpr.html?pid=38911

+ Ride along with Endeavour in Los Angeles on its way to museum duty in a time lapse compilation by photographer/cinematographer Matthew Givot: http://vimeo.com/51621640

+ The next Hudson Valley Satcom net date is Thursday, October 25 at 8 PM EDT (UTC-4 UTC) on the 146.97 MHz MBARC Repeater (PL 100). An echolink connection is available on the N2EYH-L node. More information at: http://www.hvsatcom.org. (Stu, WA2BSS)

[ANS thanks everyone for the above information]

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status. Contact Martha at the AMSAT Office for additional student membership information. And with that, please keep in mind the tale of the ham who went to his dentist to see why his dentures kept decaying rapidly. The dentist looked at the hams's dentures and remarked, "This is very odd. They look like something's been eating them. Is there anything different that you've been eating lately?" The ham said, "Well, my wife has been making a lot of eggs Benedict recently with hollandaise sauce." "Ah!" exclaimed the dentist, "That's it. I know just what you need. I'm going to order you some new dentures with plates made out of chrome." "Chrome?" exclaimed the ham incredulously, "Why Chrome?" The dentist replied, "Because, there's no plates like chrome for the hollandaise."

73,
This week's ANS Editor,
JoAnne Maenpaa, K9JKM